

Elazar Rabbani et al.; Serial No. 10/693,481; Filed: October 24, 2003
Page 3 (Amendment Under CFR §1.116 (In Response To The March 25, 2008
Office Communication – September 18, 2008))

Claims 1-250 (Canceled)

251. (Previously Presented) A method for synthesizing one or more copies of a library of nucleic acid targets that comprises the steps of:

- a) providing:
 - (i) a library of nucleic acid targets;
 - (ii) primers or nucleic acid constructs comprising sequences complementary to homopolymeric sequences in said library of nucleic acid targets wherein said primers or nucleic acid constructs comprise one or more terminal nucleotides at their 3' ends, wherein said terminal nucleotides comprise nucleotide analogues with substitutions on the 2' position of the ribose ring;
 - (iii) synthesizing reagents for the synthesis of a nucleic acid copy; and
 - (iv) addition reagents for the addition of a non-inherent Universal Detection Target (UDT); and
- b) annealing said primers or nucleic acid constructs to said homopolymeric sequences in said library of nucleic acid targets;
- c) extending the annealed primers or nucleic acid constructs by said synthesizing reagents for the synthesis of at least one nucleic acid copy of said library of nucleic acid targets; and
- d) adding a non-inherent UDT to said extended primers or said extended nucleic acid constructs.

252. (Original) The method of claim 251 wherein said library of nucleic acid targets are isolated from a biological source or said library of nucleic acids are complete or partial copies of nucleic acids isolated from a biological source.

Enz-60(CIP)

Elazar Rabbani et al.; Serial No. 10/693,481; Filed: October 24, 2003
Page 4 (Amendment Under CFR §1.116 (In Response To The March 25, 2008
Office Communication – September 18, 2008))

253. (Original) The method of claim 252 wherein said complete or partial copies of nucleic acids are identical or complementary copies of nucleic acids isolated from said biological source.

254. (Original) The method of claim 252, wherein said homopolymeric sequences are present in said library of nucleic acid targets prior to or after said isolation of said library of nucleic acid targets from said biological source.

255. (Original) The method of claim 252 wherein said homopolymeric sequences are added to said library of nucleic acid targets by an enzyme after isolation of said library of nucleic acid targets from said biological source.

256. (Original) The method of claim 254, wherein said homopolymeric sequences comprise poly A sequences.

257 (Original) The method of claim 253 wherein said homopolymeric sequences are added to said identical or complementary copies during or after preparation of said copies.

258. (Original) The method of claim 255, wherein said enzyme adding the homopolymeric sequences to the nucleic acid targets comprises poly A polymerase, Terminal Deoxynucleotidyl Transferase or a ligase.

259. (Original) The method of claim 251, wherein said nucleotide analogues comprise 2' O-methyl analogues, 2' Fluoro analogues or 2' amino analogues.

260. (Original) The method of claim 251, wherein said primers or nucleic acid constructs are chimeric and comprise nucleotides other than 2' substituted nucleotide analogues.

Enz-60(CIP)

Elazar Rabbani et al.; Serial No. 10/693,481; Filed: October 24, 2003
Page 5 (Amendment Under CFR §1.116 (In Response To The March 25, 2008
Office Communication – September 18, 2008))

261. (Original) The method of claim 251 wherein said synthesizing reagents comprise E. coli DNA Pol I, Klenow fragment of E. coli DNA Pol I, Bst DNA polymerase, Bca DNA polymerase, Taq DNA polymerase, Tth DNA polymerase, T4 DNA polymerase, T7 DNA polymerase, Sequenase, ϕ 29 DNA polymerase, ALV reverse transcriptase, MuLV reverse transcriptase, RSV reverse transcriptase, HIV-1 reverse transcriptase, HIV-2 reverse transcriptase, Sensiscript, Omniscript, any mutational variations of any of the preceding, or any combination of the preceding.

262. (Original) The method of claim 251 further comprising the steps of:

- a) providing additional synthesizing reagents for the synthesis of a complementary copy of said nucleic acid copy;
- b) separating said nucleic acid target from said first nucleic acid copy or degrading said nucleic acid target; and
- c) synthesizing said complementary copy.

263. (Original) The method of claim 262, wherein said complementary copy is formed by providing one or more reverse primers or reverse nucleic acid constructs complementary to sequences in said non-inherent UDT.

264. (Original) The method of claim 251, wherein said addition reagents comprise Terminal Deoxynucleotidyl Transferase or a ligase.

265. (Original) The method of claim 264, further comprising the step of adding a terminator nucleotide.

266. (Original) The method of claim 251, wherein said non-inherent UDT and a terminator nucleotide are added to said nucleic acid copy by providing Terminal

Enz-60(CIP)

Elazar Rabbani et al.; Serial No. 10/693,481; Filed: October 24, 2003
Page 6 (Amendment Under CFR §1.116 (In Response To The March 25, 2008
Office Communication – September 18, 2008))

Deoxynucleotidyl Transferase and a mixture of terminator and non-terminator nucleotides.

267. (Original) The method of claim 266 further comprising the steps of:

- a) providing additional synthesizing reagents for the synthesis of a complementary copy of said nucleic acid copy;
- b) separating said nucleic acid target from said first nucleic acid copy or degrading said nucleic acid target; and
- c) synthesizing said complementary copy.

268. (Original) The method of claim 265 or 266, wherein said terminator nucleotides comprise dideoxyribonucleotides, acyclic nucleotides, arabinosides or 3' amino nucleotides.

269. (Original) The method of claim 251, wherein said primers or said nucleic acid constructs comprise a production center.

270. (Original) The method of claim 263, wherein said reverse primers or reverse nucleic acid constructs comprise a production center.

271. (Original) The method of claim 269 or 270 wherein said production center comprises an RNA promoter sequence.

272 (Original) The method of claim 271 wherein said RNA promoter sequence comprises T3 RNA promoter, T7 RNA promoter or SP6 RNA promoter sequences.

273. (Original) The method of claim 271, further comprising the steps of:

- a) providing appropriate reagents; and
- b) carrying out a transcription reaction using said RNA promoter sequence.

Enz-60(CIP)

Elazar Rabbani et al.; Serial No. 10/693,481; Filed: October 24, 2003
Page 7 (Amendment Under CFR §1.116 (In Response To The March 25, 2008
Office Communication – September 18, 2008))

274. (Original) The method of claim 271 further comprising the steps of:

- a) providing reagents for RNA transcription, said reagents comprising Mn⁺⁺, mutated RNA polymerases or a combination thereof;
- b) providing dNTPs or dNTPs and NTPs; and
- c) creating a DNA transcript or a DNA/RNA chimeric transcript.

275. (Original) The method of claim 273 wherein said transcription reaction is carried out in the presence of at least one labeled nucleotide, thereby generating labeled transcription products.

276. (Original) The method of claim 274 wherein said DNA transcript or DNA/RNA chimeric transcript is carried out in the presence of at least one labeled nucleotide, thereby generating labeled transcription products.

277. (Original) The method of claim 273 further comprising the step of synthesizing a nucleic acid copy in the presence of at least one labeled nucleotides, thereby generating labeled nucleic acid copy products.

278. (Original) The method of claim 275 wherein said labeled nucleotides comprise a fluorescent compound, a phosphorescent compound, a chemiluminescent compound, a chelating compound, an electron dense compound, a magnetic compound, an intercalating compound, an energy transfer compound, an antibody, an antigen, a hapten, a receptor, a hormone, a ligand, an enzyme, or any combination of the preceding.

279. (Original) The method of claim 276 wherein said labeled nucleotides comprise a fluorescent compound, a phosphorescent compound, a chemiluminescent compound, a chelating compound, an electron dense compound, a magnetic compound, an

Enz-60(CIP)

Elazar Rabbani et al.; Serial No. 10/693,481; Filed: October 24, 2003
Page 8 (Amendment Under CFR §1.116 (In Response To The March 25, 2008
Office Communication – September 18, 2008))

intercalating compound, an energy transfer compound, an antibody, an antigen, a hapten, a receptor, a hormone, a ligand, an enzyme, or any combination of the preceding.

280. (Original) The method of claim 277 wherein said labeled nucleotides comprise a fluorescent compound, a phosphorescent compound, a chemiluminescent compound, a chelating compound, an electron dense compound, a magnetic compound, an intercalating compound, an energy transfer compound, an antibody, an antigen, a hapten, a receptor, a hormone, a ligand, an enzyme, or any combination of the preceding.

281. (Original) The method of claim 251 wherein said library of nucleic acid targets comprises DNA or RNA.

282. (Original) The method of claim 251 wherein said primer or nucleic acid construct is attached to a solid matrix.

283. (Original) The method of claim 289 wherein said solid matrix comprises magnetic beads, latex beads, microtitre plates or glass slides.

284. (Original) The method of claim 251 wherein said sequence of said homopolymeric segment is comprised of T, U or any combination thereof.

285. (Original) The method of claim 251 wherein said sequence of said homopolymeric segment comprises oligo-C, oligo-G or oligo-A.

286. (Previously Presented) The method of claim 251 wherein at least one of said nucleotide analogues comprises a portion of said homopolymeric sequence.

Enz-60(CIP)

Elazar Rabbani et al.; Serial No. 10/693,481; Filed: October 24, 2003
Page 9 (Amendment Under CFR §1.116 (In Response To The March 25, 2008
Office Communication – September 18, 2008))

287. (Previously Presented) The method of claim 251 wherein at least one of said bases of said nucleotide analogues is different from the bases comprising said homopolymeric segment.

Claims 288-624 (Canceled)

625. (Previously Presented) A method for synthesizing a copy of at least one nucleic acid target comprising the steps of:

- a) providing:
 - (i) at least one nucleic acid target;
 - (ii) at least one primer or nucleic acid construct complementary to a poly A sequence in said nucleic acid target, wherein said primer or nucleic acid construct comprise one or more terminal nucleotides at their 3' ends, wherein said terminal nucleotides comprise nucleotide analogues with substitutions on the 2' position of the ribose ring; and
 - (iii) template dependent reagents for the synthesis of a nucleic acid copy; and
 - b) annealing said primer or nucleic acid construct to said nucleic acid target;
- and
- c) extending said primer or nucleic acid construct by said synthesizing reagents using at least one nucleic acid target as a template to synthesize a copy of said nucleic acid target.

Claim 626 (Canceled)

Enz-60(CIP)